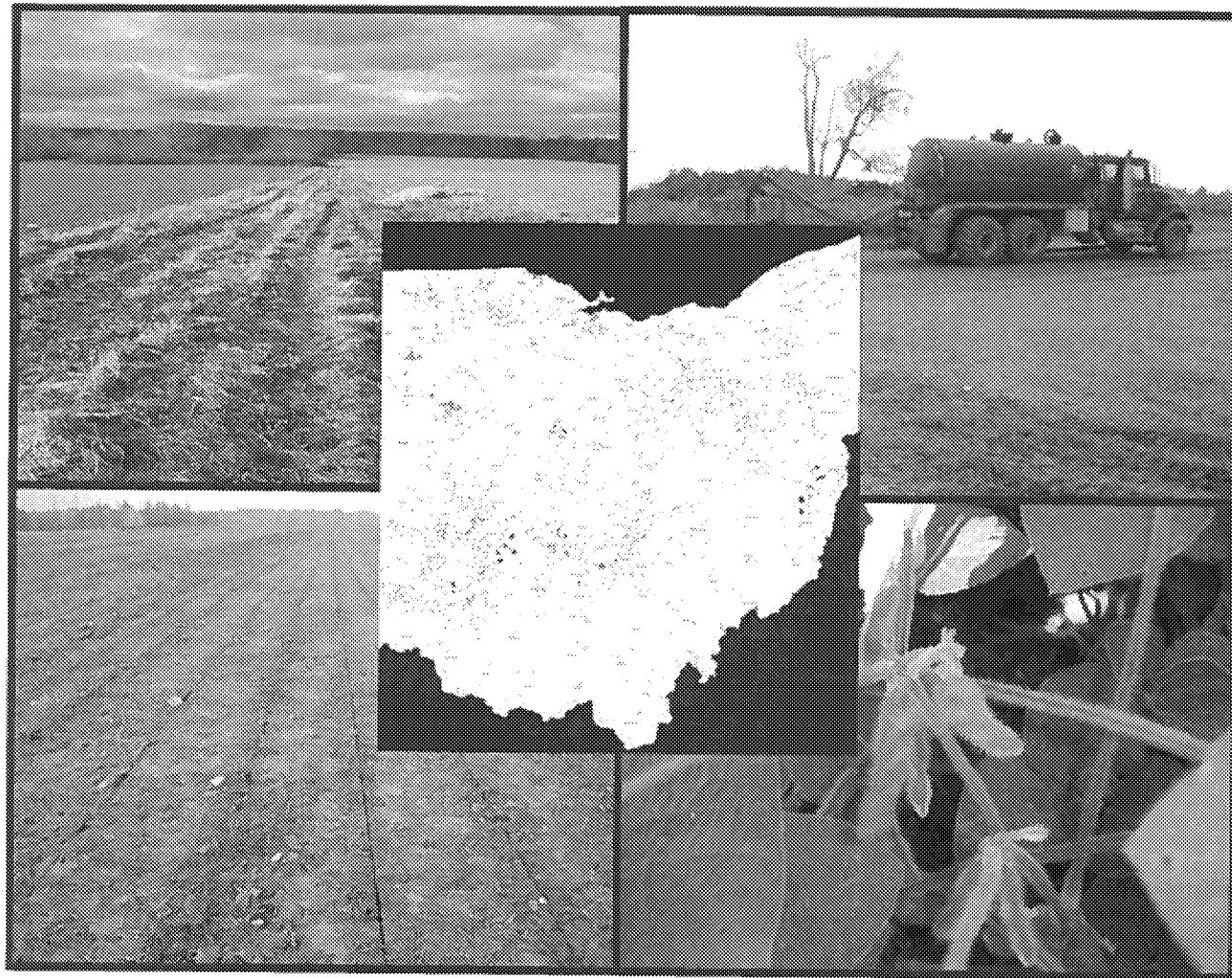


Application for Authorization: Class B Biosolids Beneficial Use Sites



Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Emerald BioEnergy		
Ohio NPDES permit #: 4IN00204*AD	County: Morrow	
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Operator of record: Taylor Faecher		
Telephone number: (419) 253-5300		
Email address: tfaecher@renergy.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.
2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.
3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.
4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.



Signature

2 / 12 / 18

Date

This form shall be signed by the operator of record for the treatment works, be an original signature, not a copy, and must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Owner Consent for Beneficial Use

Exemption 6

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.
2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.
3. I certify that I am holder of legal title to the property described on application form BUA-5, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

Exemption 6

31 29 18
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site.

² In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Owner Consent for Beneficial Use

Exemption 6

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.
2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.
3. I certify that I am holder of legal title to the property described on application form BUA-5, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

Exemption 6

4 / 25 / -18
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site.

² In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Operator Consent for Beneficial Use

Exemption 6

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Exemption 6

5/1/18
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site.

² In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.


Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial User Information

Beneficial user ¹ : Emerald BioEnergy		
Contact person: Taylor Faecher		
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Telephone number: (419) 253-5300		
Email address: tfaecher@reenergy.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.



Signature²

21 / 12 / 18

Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

² In the event the beneficial user of the beneficial use site changes, Form BUA-4 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: DES-01-03																															
Beneficial use site location: North of 224 and West of Piper Rd																															
County: Delaware		Township: Oxford																													
Latitude: 40.39606		Longitude: -82.94087																													
Total acreage proposed for beneficial use: 62																															
Type of beneficial use to be performed: Surface application <input checked="" type="checkbox"/> Injection or immediate incorporation <input checked="" type="checkbox"/>		Ground slope percent: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Less than 15%</td> <td style="text-align: center; width: 20px;"><input checked="" type="checkbox"/></td> <td style="padding: 2px;">15% to 19.9%</td> <td style="text-align: center; width: 20px;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;">Greater than 20%</td> <td style="text-align: center;"><input type="checkbox"/></td> <td colspan="2"></td> </tr> </table>		Less than 15%	<input checked="" type="checkbox"/>	15% to 19.9%	<input type="checkbox"/>	Greater than 20%	<input type="checkbox"/>																						
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Greater than 20%	<input type="checkbox"/>																														
Soil pH (s.u): 5.37		Soil phosphorus (mg/kg): _21.3_																													
Bedrock depth (feet): 3.08 ft		Bray Kurtz P1 <input type="checkbox"/> Mehlich 3 <input checked="" type="checkbox"/>																													
Type of crops to be grown: <table border="1" style="float: right; margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="padding: 2px;">Crop Type</th> <th style="padding: 2px;">Expected Yield</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Corn</td> <td style="text-align: center; padding: 2px;">1 5 0</td> </tr> <tr> <td style="padding: 2px;">Soybeans</td> <td style="text-align: center; padding: 2px;">5 5</td> </tr> <tr> <td style="padding: 2px;">Wheat</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Pasture</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Hay</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Other:</td> <td style="padding: 2px;"></td> </tr> </tbody> </table>				Crop Type	Expected Yield	Corn	1 5 0	Soybeans	5 5	Wheat		Pasture		Hay		Other:															
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Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Applicable isolation distances:

Type of Isolation Distance			
Surface waters of the state	<input checked="" type="checkbox"/>	Sinkhole/UIC class V drainage	<input type="checkbox"/>
Occupied building	<input checked="" type="checkbox"/>	Private potable water source	<input checked="" type="checkbox"/>
Medical care facility	<input type="checkbox"/>		

Are any endangered species or endangered species habitats located on the beneficial use site?

☐ Yes ☒ No

If "Yes" is marked, list the types of endangered species or endangered species habitat:

--

Have biosolids been beneficially used on the site since July 20, 1993?

☐ Yes ☒ No

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following:

- ☐ A soil map of the proposed beneficial use site;
- ☐ A frequency flood class map of the proposed beneficial use site;
- ☐ An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code;
- ☐ A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled; and
- ☐ A copy of the most recent soil test results identified in this form.

lb/A

BROOKSIDE LABORATORIES, INC. 58251-24**SOIL AUDIT AND INVENTORY REPORT**Name Ringler Energy City Cardington State OHIndependent Consultant Brookside Consultants of Ohio, Inc. Date 03/05/2018

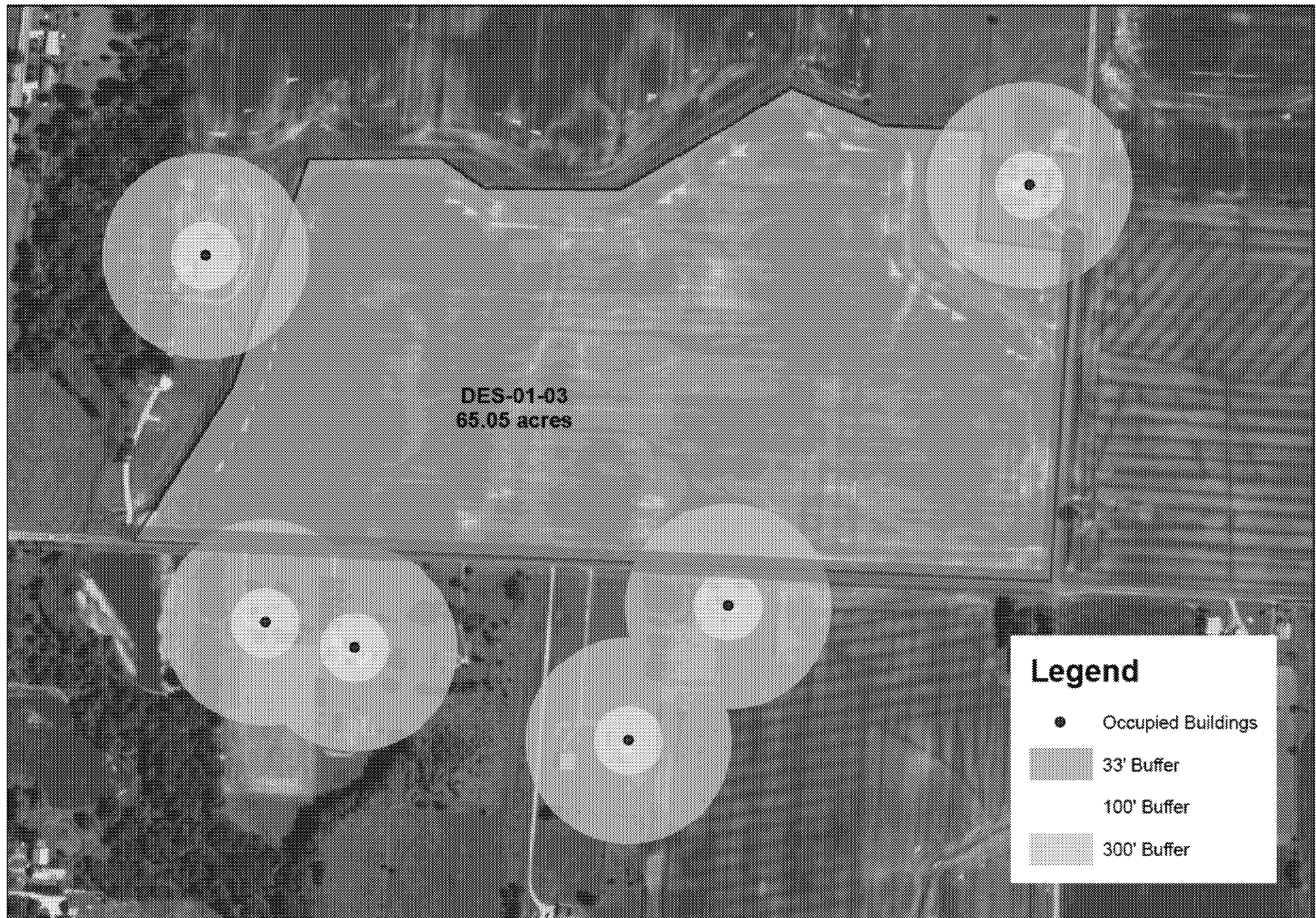
Sample Location ██████ 60		1	2	3		
Sample Identification						
Lab Number		0198-1	0199-1	0200-1		
Total Exchange Capacity (ME/100 g)		9.74	11.35	9.02		
pH (H ₂ O 1:1)		5.4	5.9	4.8		
Organic Matter (360°C LOI) %		2.53	2.77	2.80		
Estimated Nitrogen Release lb/A		71	75	76		
ANIONS	SOLUBLE SULFUR* ppm	6	7	9		
	MEHLICH III lb/A P as PO ₅	128	73	92		
	ppm of P	28	16	20		
	BRAY II lb/A P as PO ₅					
	ppm of P					
EXCHANGEABLE CATIONS	OLSEN lb/A P as PO ₅					
	ppm of P					
	CALCIUM* lb/A	1650	2506	1138		
	ppm	825	1253	569		
	MAGNESIUM* lb/A	342	508	200		
BASE SATURATION PERCENT	ppm	171	254	100		
	POTASSIUM* lb/A	228	178	128		
	ppm	114	89	64		
	SODIUM* lb/A	20	28	24		
	ppm	10	14	12		
BASE SATURATION PERCENT						
Calcium %		42.35	55.20	31.54		
Magnesium %		14.63	18.65	9.24		
Potassium %		3.00	2.01	1.82		
Sodium %		0.45	0.54	0.58		
Other Bases %		6.60	5.60	7.80		
Hydrogen %		33.00	18.00	49.00		
EXTRACTABLE MINORS						
Boron* (ppm)		0.23	< 0.20	< 0.20		
Iron* (ppm)		171	147	158		
Manganese* (ppm)		62	72	44		
Copper* (ppm)		1.78	1.45	0.83		
Zinc* (ppm)		1.77	1.03	0.81		
Aluminum* (ppm)		739	791	889		
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	Bray I P (ppm)	21	11	14		

* Mehlich III Extractable

ED_014244A_00000133-00009



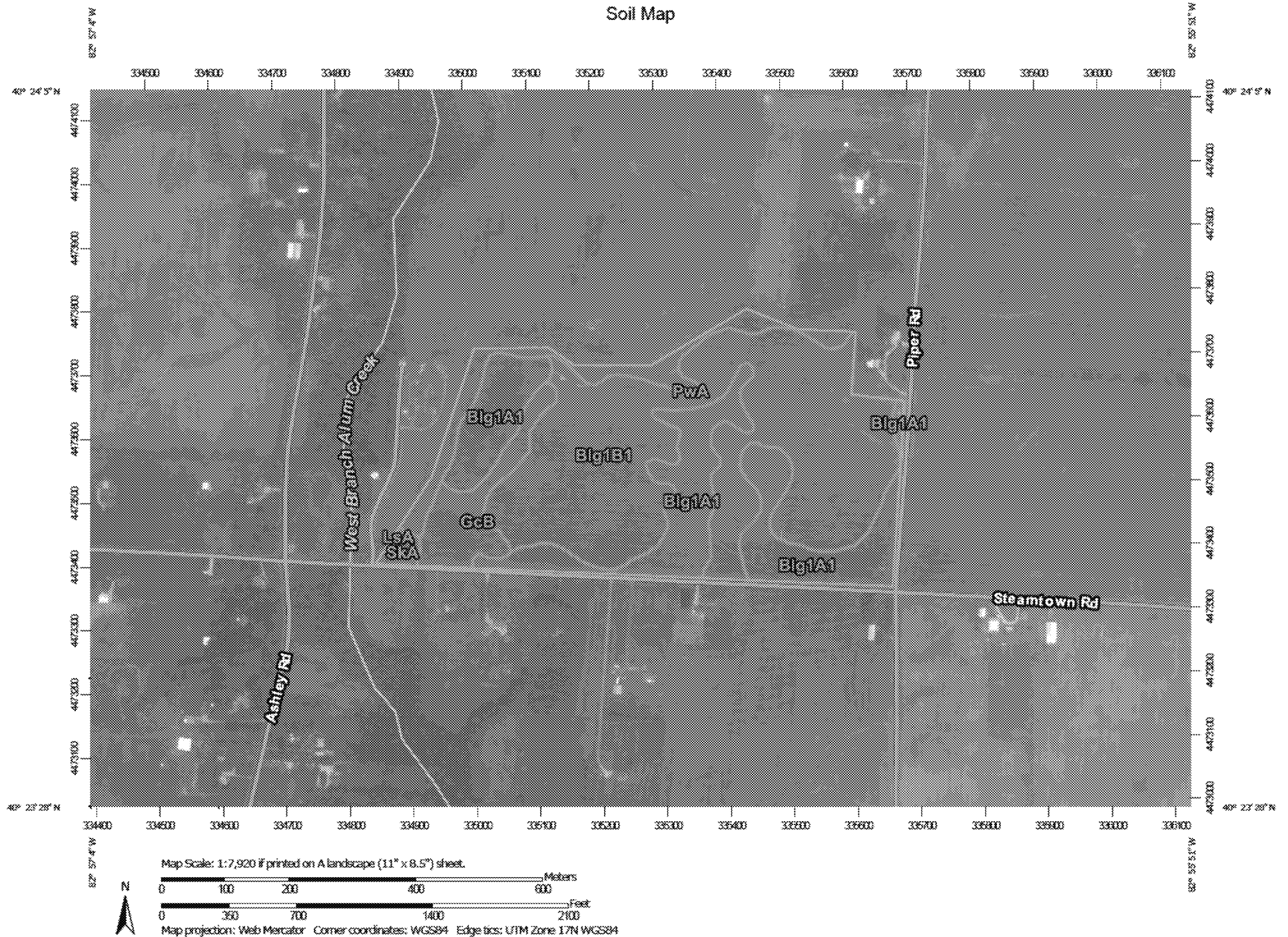
DES-01-03 Setback Distance



0 0.075 0.15 0.3 Miles

Setback Distance	
DES-01-03	
Total Area: 65.05 acres	
Setbacks:	
Residence - 300' Buffer	4.94 acres
Residence - 100' Buffer	0 acres
Surface Waters - 33' Buffer	3.32 acres
Total Setback Area:	
8.26 acres	

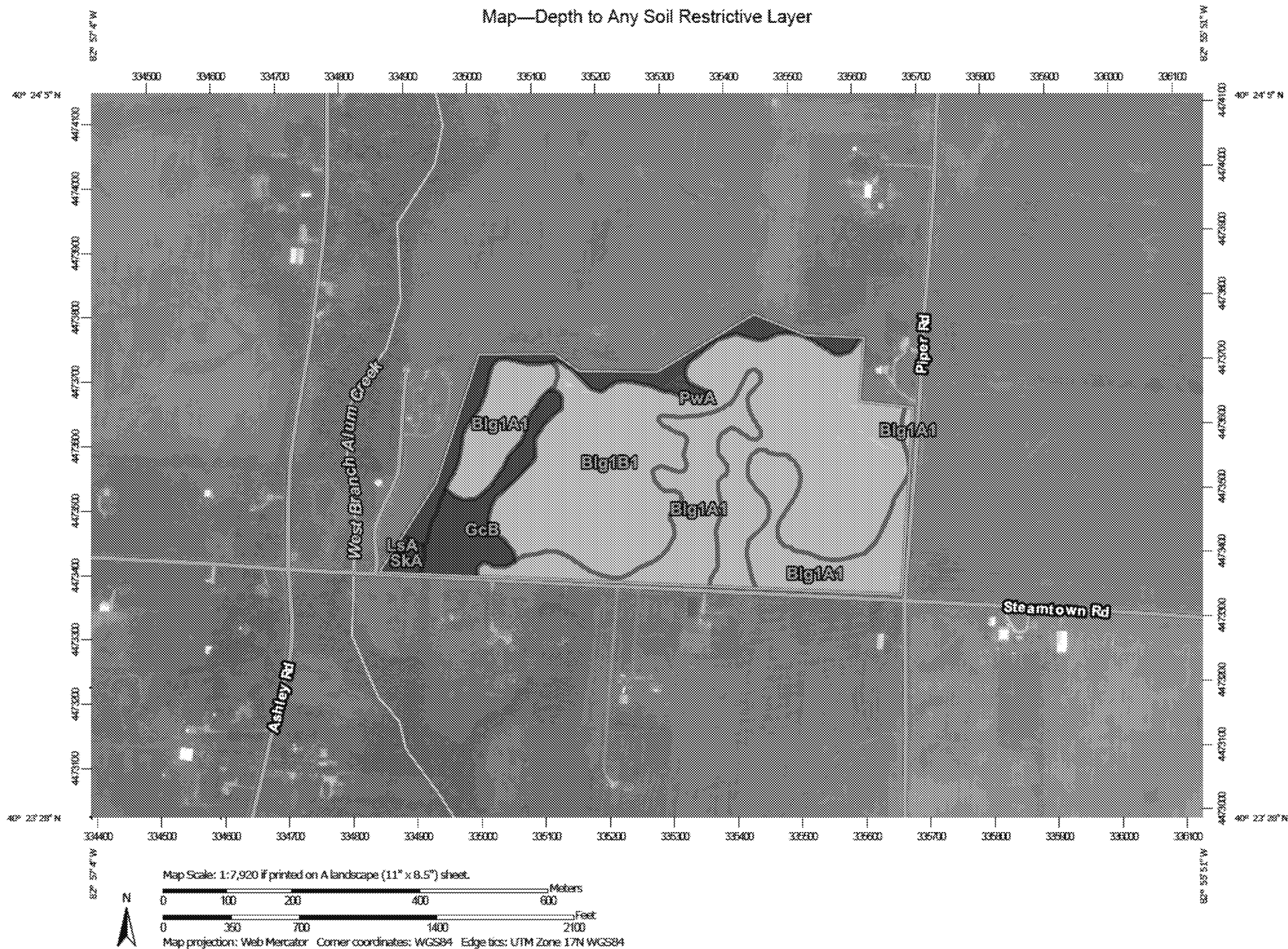
Soil Map



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	18.6	28.6%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	36.6	56.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	4.5	6.9%
LsA	Lobdell, channery substratum-Sloan, till substratum complex, 0 to 2 percent slopes, occasionally flooded	0.1	0.1%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	4.7	7.2%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	0.6	0.9%
Totals for Area of Interest		65.1	100.0%

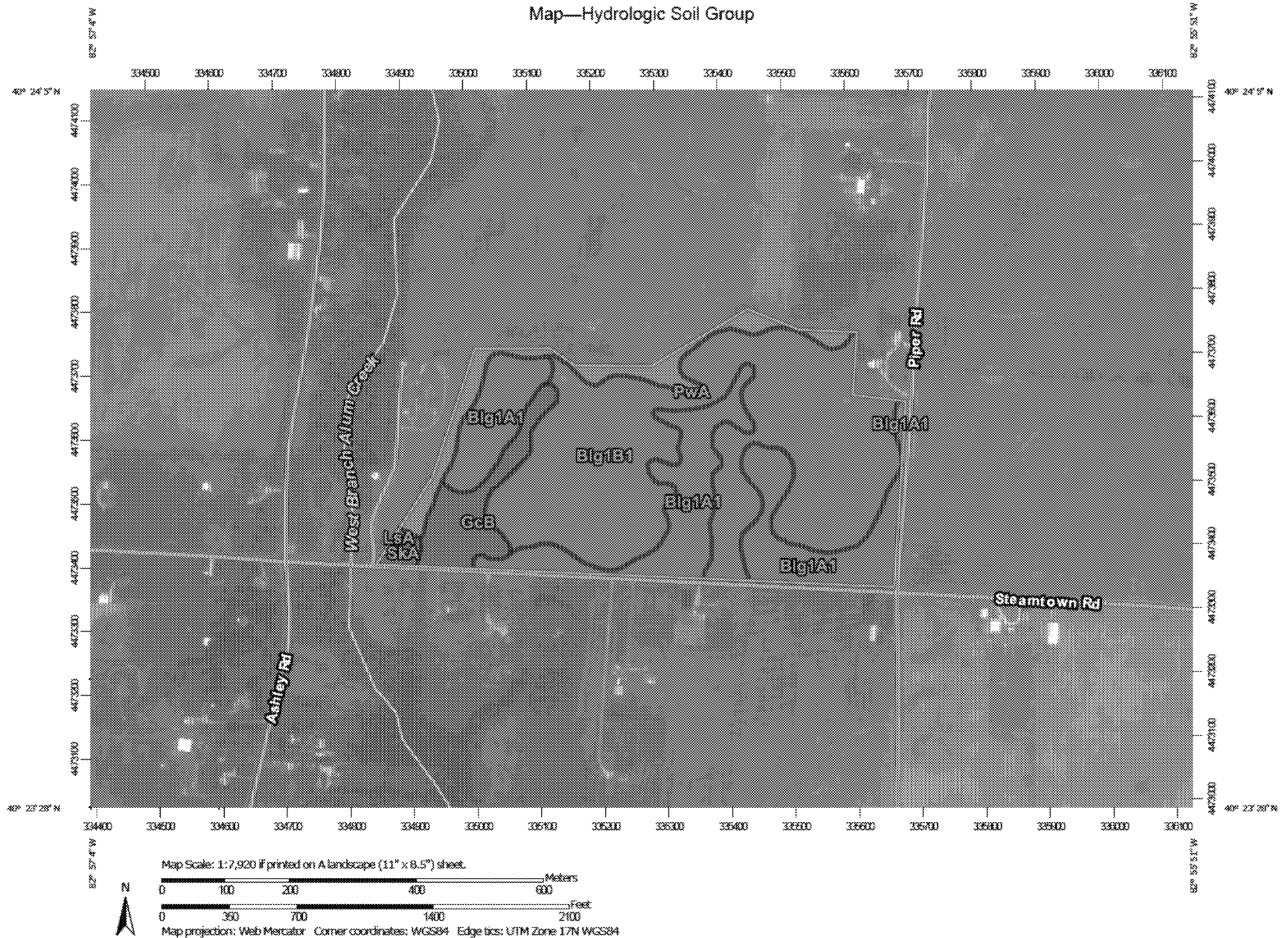
Map—Depth to Any Soil Restrictive Layer



Table—Depth to Any Soil Restrictive Layer

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	99	18.6	28.6%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	94	36.6	56.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	>200	4.5	6.9%
LsA	Lobdell, channery substratum-Sloan, till substratum complex, 0 to 2 percent slopes, occasionally flooded	>200	0.1	0.1%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	>200	4.7	7.2%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	>200	0.6	0.9%
Totals for Area of Interest			65.1	100.0%

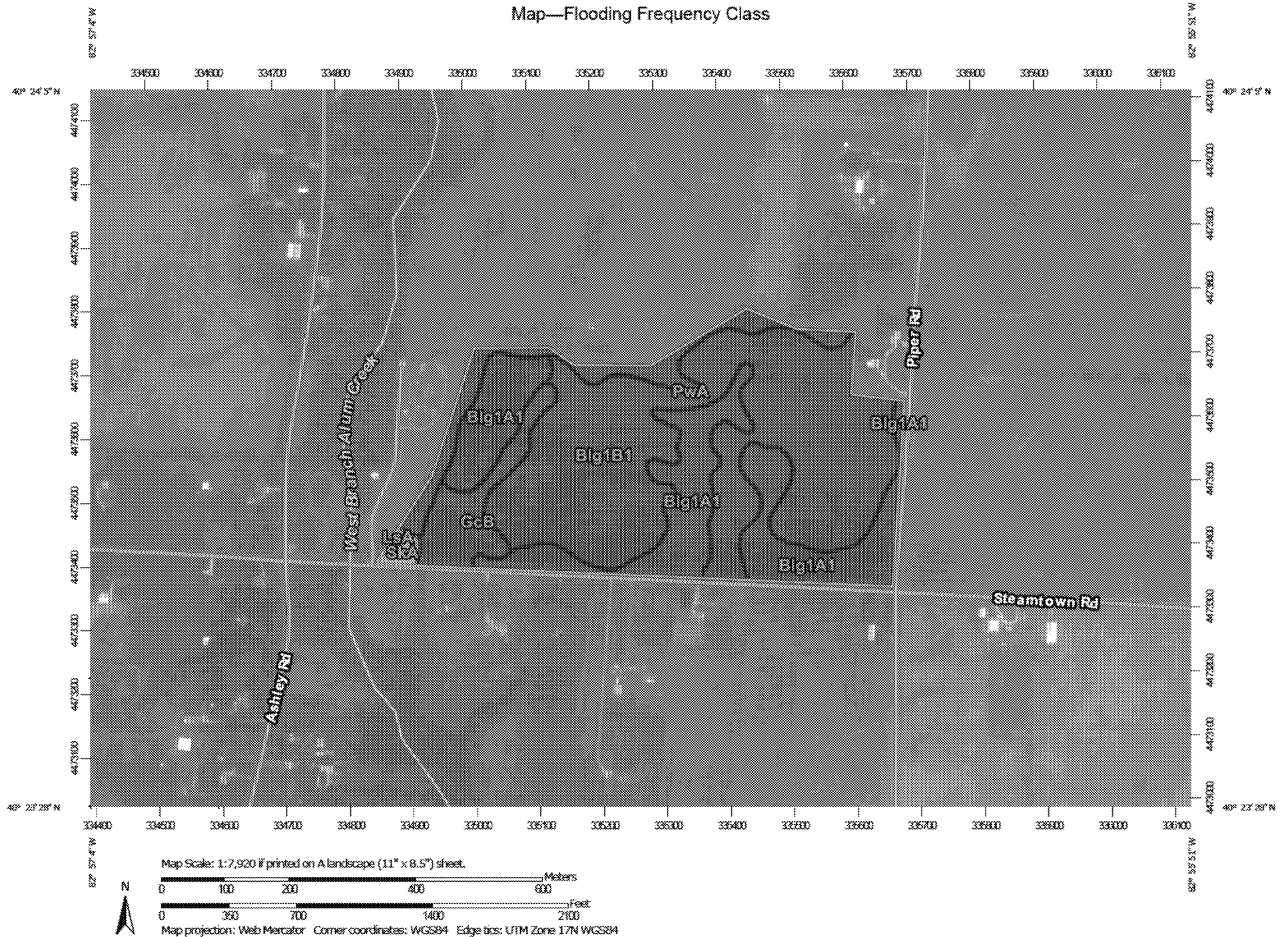
Map—Hydrologic Soil Group



Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	18.6	28.6%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	D	36.6	56.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	B	4.5	6.9%
LsA	Lobdell, channery substratum-Sloan, till substratum complex, 0 to 2 percent slopes, occasionally flooded	B/D	0.1	0.1%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	C/D	4.7	7.2%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	B/D	0.6	0.9%
Totals for Area of Interest			65.1	100.0%

Map—Flooding Frequency Class



Table—Flooding Frequency Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	None	18.6	28.6%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	None	36.6	56.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	None	4.5	6.9%
LsA	Lobdell, channery substratum-Sloan, till substratum complex, 0 to 2 percent slopes, occasionally flooded	Occasional	0.1	0.1%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	None	4.7	7.2%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	Occasional	0.6	0.9%
Totals for Area of Interest			65.1	100.0%